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UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Administration
Bureau of Animal IndustryTHE CHEMICAL COMPOSITION AND NUTRITIVE VALUE OF THE
DRESSED CARCASS AND CUTS IN RELATION TO LIVE
WEIGHT OF THE HOG OF INTERMEDIATE TYPE
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In June, 1943, the Department issued the mimeographed article entitled, "The Physical Composition of the Dressed Carcass and Cuts In Relation to Live Weight of the Hog of Intermediate Type." The importance to consumers of the proportions of fat, lean, bone, and skin in the various cuts and of variations in such proportions were pointed out. Factors responsible for the variations were mentioned. Values for the estimated physical composition or the percentages of separable fat, lean, bone, and skin of the chilled, dressed carcasses and principal trimmed cuts from hogs of slaughter weights of 175, 200, 225, and 250 pounds were presented. The data were obtained from 64 hogs of intermediate type and of several breeds and crosses, with the feeding in general representative of that employed in finishing market hogs in the United States. Standard methods of slaughtering and cutting were used.

For the person who is interested in further details of nutritional qualities, information on chemical composition is a necessity. With a single exception, the dressed carcasses as well as one ham from each of the 64 hogs were subjected to chemical analysis. Moreover, analyses were made of loins, full-cut shoulders, bacons, and skinless back fats from moderately large numbers of hogs representing the entire group. In each instance the fat (ether extract), protein, moisture, and ash content of the edible portion of the carcass or cut were determined. The fat and protein in terms of grams were multiplied by appropriate factors and the products added together for the purpose of determining caloric values.

Table 1 shows the chemical composition of the edible portion of the dressed carcasses and the several primary cuts as estimated by linear regression equations for hogs weighing 175, 200, 225 and 250 pounds at slaughter. In table 2 are given estimated weights for the carcasses and cuts and for the edible meat thereof. There are also shown the numbers of calories per pound "as purchased" and on the "edible meat" basis, as well as the weights of protein per pound of edible meat. The values in the tables are offered as a guide and it should be understood that the deviation from the estimate in a particular instance may be appreciable.

^{1/} The authors wish to give credit to Mrs. Edna V. Steely for assistance in analyzing the data.

Table 1. - Chemical composition of the edible portion of the carcasses and 5 principal cuts for 4 groups of hogs of significant market weights.

Cuts and components	: Number :	Live weight at slaughter			
	: of :				
	: hogs :	175 pounds	200 pounds	225 pounds	250 pounds
		Percent	Percent	Percent	Percent
Chilled dressed carcass	63				
Ether extract (fat)		46.01	49.27	52.54	55.80
Protein		11.81	11.01	10.22	9.42
Moisture		41.81	39.43	37.05	34.68
Ash		0.59	0.56	0.53	0.49
Ham	63				
Ether extract (fat)		29.12	32.36	35.59	38.82
Protein		15.38	14.68	13.99	13.29
Moisture		54.81	52.47	50.14	47.80
Ash		0.81	0.75	0.70	0.64
Loin	44				
Ether extract (fat)		25.97	28.02	30.08	32.14
Protein		16.61	16.11	15.60	15.09
Moisture		57.00	55.33	53.65	51.98
Ash		0.81	0.79	0.77	0.75
Shoulder, full cut	26				
Ether extract (fat)		33.85	36.90	39.94	42.99
Protein		13.78	13.09	12.40	11.72
Moisture		52.00	49.70	47.41	45.12
Ash		0.67	0.65	0.63	0.61
Bacon	35				
Ether extract (fat)		51.45	57.18	62.92	68.65
Protein		10.42	9.12	7.83	6.54
Moisture		37.76	33.47	29.18	24.89
Ash		0.48	0.43	0.38	0.33
Back fat, skinned	42				
Ether extract (fat)		87.74	89.21	90.68	92.15
Protein		2.62	2.29	1.96	1.63
Moisture		9.15	8.27	7.39	6.52
Ash		0.11	0.10	0.10	0.09

Table 2.- Weights and caloric values for the carcasses and 5 principal cuts for 4 groups of hogs of significant market weights.

Cuts and components		Live weight at slaughter			
		175 pounds	200 pounds	225 pounds	250 pounds
Chilled dressed carcass					
Total weight	pounds	139	158	178	197
Edible meat ^{1/}	"	107.5	124.5	142.8	160.9
Protein per pound edible meat	pound	.12	.11	.10	.09
Calories -					
per pound edible meat	number	2092	2211	2330	2449
per pound as purchased	"	1618	1742	1869	2000
Ham					
Total weight, one ham	pounds	13.90	15.60	17.30	19.01
Edible meat, one ham	"	11.75	13.26	14.78	16.32
Protein per pound edible meat	pound	.15	.15	.14	.13
Calories -					
per pound edible meat	number	1467	1588	1707	1827
per pound as purchased	"	1241	1350	1458	1569
Loin					
Total weight, one loin	pounds	9.81	10.55	11.29	12.02
Edible meat, one loin	"	7.60	8.23	8.87	9.50
Protein per pound edible meat	pound	.17	.16	.16	.15
Calories -					
per pound edible meat	number	1359	1439	1511	1583
per pound as purchased	"	1052	1123	1187	1251
Shoulder, full cut					
Total weight, one shoulder	pounds	11.93	13.65	15.38	17.10
Edible meat, one shoulder	"	9.95	11.49	13.07	14.66
Protein per pound edible meat	pound	.14	.13	.12	.12
Calories -					
per pound edible meat	number	1633	1743	1856	1974
per pound as purchased	"	1362	1467	1577	1693
Bacon					
Total weight, one side	pounds	7.84	9.37	10.90	12.44
Edible meat, one side	"	7.20	8.67	10.16	11.68
Protein per pound edible meat	pound	.10	.09	.08	.07
Calories -					
per pound edible meat	number	2286	2501	2708	2921
per pound as purchased	"	2100	2314	2524	2743
Back fat, skinned					
Total weight, one side	pounds	5.10	6.40	7.71	9.01
Protein per pound	pound	.03	.02	.02	.02
Calories per pound	number	3625	3685	3737	3791

^{1/} "Edible meat" consists of the lean and fat that can be separated from the bone and skin.

